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**"VESTIGES
OF
THE NATURAL HISTORY
OF
CREATION:"**

S ARGUMENT EXAMINED AND EXPOSED.

—◆—
Samuel Ricciard BY
S. R. BOSANQUET, ESQ.
=

—◆—
"Go, wond'rous creature! mount where science guides;
Go, measure earth, weigh air, and state the tides;
Instruct the planets in their orbe to run;
Correct old time, and regulate the sun.
Go, teach Eternal Wisdom how to rule—
Then drop into thyself, and be a fool!"—ESSAY ON MAN.

—
SECOND EDITION.
—

LONDON:
JOHN HATCHARD & SON, PICCADILLY.

—
1845.

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“ VESTIGES OF THE NATURAL HISTORY
OF CREATION”

EXPOSED, ETC.



THE recent publication of the book entitled “ Vestiges of the Natural History of Creation,” is very much to be regretted ; and still more is it to be regretted that it is obtaining a rapid circulation, if not a very general approval ; and that the public taste or discernment has not passed upon it an immediate sentence of condemnation and rejection from the stage, on its first representation.

We may very well remember the eager curiosity and pleasure with which the reading public, especially the increasing class of female philosophers, received the dozen first numbers of Miss Martineau’s publications, on the Poor and the Poor Laws. It was not till the poisonous Circean cup had been very deeply imbibed, that those who were suffering from its infection discovered that their passion for such draughts was that of a blunted and a morbid appetite. It became the fashion at that time to write libels against the poor ; to philoso-

phise in opposition to the divine rule of alms-giving, and in disparagement of every distribution of public or of private charity. Very abundantly was this general taste and appetite gratified; and the well-disposed, and even the clergy themselves, felt that they were doing God service, while they were slaying his poor; and did not discover, till the evil was almost beyond repentance, that it was an essentially sceptical philosophy in whose ranks they were enrolled, and which had thus clothed itself with the pretensions of an angel of light. A few years prior to this, there was a similar fashion for works on natural magic, each "Library" and series of publications must have its volume on natural magic, by some eminent penman: by the accommodating hand of its readiest contributor. Many curious instances of credulity and self-deception were collected; many truisms and philosophic puerilities were wrought together into a dainty course of literary *hors d'œuvres* and *entremets*; but the *appétitif* which sharpened the taste, and gave zest to these meats, was a growing and grown dislike and rejection of the supernatural; it was scepticism again, disguised and veiled, and exercising the greater license and freedom of the incognito.

It is for fear lest the same fashion should be engendered, and grow equally rank for "Vestiges of Creation" and works of a similar character, that it is thought right to notice this publication as early as possible; and to expose its principles and tendencies, and warn the eager and ardent and unsuspecting against them.

These books are very easy to write, as will appear ; as easy as a collection of ghost stories explained, or a catalogue of impostures discovered, or charities abused, culled out of the last leaves of the Mendicity Society's Reports ; leaving without mention the heaps of distressing and deserving cases relieved, with which the rest of their pages are crowded and consecrated.

The volume before us is the very romance of philosophy :—for in these times, when children give up fairy tales, and read and talk philosophy, philosophy also must have its romances, as well as war and love, with the due foundation on fact, and finishing of fancy ; and all the chiselling and squaring and fitting of the cunning workman, by which he fashions the rudest and most unlikely lumps, to form the beautiful and symmetrical structure which he has pre-determined upon.

The treatise which we have to examine and analyze is most engaging and interesting. We willingly accord to it all the attractions of novelty and ingenuity, the fascinations of beauty, the delights of theory. We readily attribute to it all the graces of the accomplished harlot. Her song is like the syren for its melody and attractive sweetness ; she is clothed in scarlet, and every kind of fancy work of dress and ornament ; her step is grace, and lightness and life ; her laughter light, her very motion musical. But she is a foul and filthy thing, whose touch is taint ; whose breath is contamination ; whose look, and words, and thoughts, will turn the spring of purity to a pest, of truth to lies, of life to death, of love to loathing. Such is philosophy without

the maiden gem of truth and singleness of purpose; divorced from the sacred and ennobling rule and discipline of faith. Without this, philosophy is a wanton and deformed adultress.

Before giving an outline of the scheme and theory which is elaborated in the "Vestiges of Creation," and combating the evil tendency and intention of the work, we think it right to show the depth and strength of the poison to which we would provide an antidote; and the principles and conclusions to which these speculations have brought their author; or being first in the author's mind, have dictated the work, and animated the growth of it.

The design of the work is to show that there has been no such thing as creation, in the sense in which we receive it from the Mosaic History and Revelation; that there is no such thing as a Special Providence; that the very notion of it "is ridiculous:"—

"For how can we suppose that the august Being, who brought all these countless worlds into form by the simple establishment of a natural principle flowing from his mind, was to interfere personally and specially on every occasion when a new shell-fish or reptile was to be ushered into existence on one of these worlds? Surely this idea is too ridiculous to be for a moment entertained."—(p. 155, 2d edition.)

No, the great truth which is to be received is, that God made all things from eternity, even the infinity of the universe, by one fiat; since which, He has reposed, and not interfered with the affairs or the order of Crea-

tion; for this would be "a mean view of Him."—(p. 154.) That the whole of what we call creation has been only the development of this one first fiat, by Nature, not by God;—that the whole is resolvable into, and is *proved* to be consistent only with "the doctrine of *law-creation*,"—(p. 176), "the general doctrine of an organic creation by law,"—(p. 183);—that at every successive stage of new orders of things and new existence, the beings and things existing have always produced the higher order of their successors, by natural generation.

We will not enter at present upon the merits of the philosophy and the proofs, but will exhibit only their end and open intention.

The denial is avowed and continually repeated of the agency of a Special Providence. It is assumed to be *disproved*, and that abundantly, by the analogical reasoning, and imaginative assumptions, by which the discoveries of philosophy have been ingeniously put together, and the system built up, as we shall exhibit presently. The perfect goodness of God also is freely canvassed and impeached, as necessarily opposed by this new and enlightened system.

"It will occur to every one, that the system here unfolded does not imply the most perfect conceivable love or regard on the part of the Deity towards his creatures. Constituted as we are, feeling how vain our efforts often are to attain happiness or avoid calamity, and knowing that much evil does unavoidably befall us from no fault of ours, we are apt to think this a dreary view of the

Divine economy ; and before we have looked farther, we might be tempted to say, ‘ Far rather let us cling to the idea so long received, that the Deity acts continually for special occasions, and gives such directions to the fate of each individual as he thinks meet ; so that when sorrow comes to us, we shall have at least the consolation of believing that it is imposed by a Father who loves us, and who seeks by these means to accomplish our ultimate good.’ Now, in the first place, if this be an untrue notion of the Deity and his ways, and that it is so has been amply shown, it can be of no real benefit to us ;” &c.—(p. 386—7).*

With the usual inconsistency and false reasoning of these sceptical writers, the author, while he professes to exalt the greatness of the Deity by attributing to him

* In a third edition, which has appeared, the author has omitted this passage ; together with thirty or forty pages besides : for some of which he has introduced new matter. Of these omissions he has only given the following notice, in a note at the last page but three of the book :—

“ In the present edition a few alterations and omissions have been made, either because of doubts which had entered my mind with regard to the passages concerned, or merely because it appeared advisable to remove out of the way illustrations or arguments which had been made the ground of sweeping objections, while in reality they were all but indifferent to the general question.”

The passages omitted, when quoted, will all be noticed ; from which it will be seen how very few they are, and that they are indeed “ all but indifferent to the general question,” at least of the sceptical intention of the author’s argument. But it could hardly have been conceived from this notice, that the author has actually taken out the very key-stone of his argument, without which the whole connection is broken and falls to pieces : as will be noticed at the proper place.

one aboriginal and all-sufficient fiat, ascribes to the machine so set in motion an imperfection both in execution and design, which essentially limits his goodness and perfection, and denies his omnipotence.

“We there see” (in the view which has been given of the constitution of nature) “the Deity operating in the most august of his works by fixed laws ; an arrangement which, it is clear, only admits of the main and primary results being good, but disregards exceptions.” —(p. 365.) And again,

“It is clear, moreover, from the whole scope of the natural laws, that the individual, as far as the present sphere of being is concerned, is to the Author of Nature a consideration of inferior moment. Everywhere we see the arrangements for the species perfect ; the individual is left, as it were, to take his chance amidst the *mêlée* of the various laws affecting him. If he be found inferiorly endowed, or ill befalls him, there was at least no partiality against him. The system has the fairness

Independently of this, by the loose and facile shifting of his ground, and the adoption of new positions, upon matters which he had so repeatedly asserted to be proved and demonstrated, the author has deposed himself from the class of laborious philosophers to that of every-day writers. He might seem, on this account, to have rendered himself unworthy of a formal exposure. But as Four Thousand copies of the book have been circulated, in the two former editions, and there is neither extraction nor acknowledgment of the poison in the present, it still seems to be necessary to furnish an antidote ; which will fortunately only be the more complete by means of the weapon which the author has thus furnished against his own system, while at the same time he still holds it up for further castigation.

of a lottery, in which every one has the like chance of drawing the prize.”—(p. 380.)

Of course in such a philosophy the doctrines of Revealed Truth have not a place. Knowledge coming from God himself is not worthy the name of truth and fact; and is not to be placed beside, or in aid of, or opposition to what are called *phænomena*. Angel or devil have no place, for evil or good, in such a system: not even in the moral system. “War is produced,” and other crimes of course, not by the instigation of the devil, but by “certain tendencies of human nature, as keen assertion of a supposed right, resentment of supposed injury, &c. All of these are tendencies which are every day, in a legitimate extent of action, producing great and indispensable benefit to us. Man would be a tame, indolent, unserviceable being without them, and his fate would be starvation. War then, huge evil though it be, is, after all, but the exceptive case, a casual misdirection of properties and powers essentially good. God has given us the tendencies for a benevolent purpose.”—(p. 367—8.)

But in such a philosophy there is no admittance in fact for any moral system. Still less is it possible that there should be any room for the belief in a state of probation, and the doctrine of future rewards and punishments. The object and use of man’s pre-eminence over the beasts, his use of reason instead of instinct, is not his probation here, and his preparation for an hereafter; but, it is said,

“Man’s faculties might have been restricted to definiteness of action, as is greatly the case with those of the lower animals, and thus we should have been equally safe from the aberrations which lead to disease; but in that event we should have been incapable of acting to so many different purposes as we are, and of the many high enjoyments” [of a future state?—no, those] “which the varied action of our faculties put in our power.”—(p. 373.)

In such a philosophy, the Holy Scriptures are either set down to the level of ancient fables; or, as being directly opposed to it, are altogether rejected from notice. The Bible is, in the following, either wholly left unnoticed, or purposely levelled to the standard of traditionary histories.

“There is, indeed, one piece of evidence for the probability of the comparative youth of our system, altogether apart from human traditions, and the geognostic appearances of the surface of our planet.”—(p. 22.)

Again, in the following, the revelation of God’s will is either intentionally denied, or natural evidence and religion is placed upon an equal footing of value with revealed doctrine.

“These are words which God speaks to us as truly through his works, as if we heard them uttered in his own voice from heaven.”—(p. 386.)

And lastly, in the following words, the whole estimate of the value of revealed truth, as contained in Holy Writ, stands plainly professed.

“ Thus we give, as is meet, a respectful reception to what is revealed through the medium of nature, at the same time that we fully reserve our reverence for all we have been accustomed to hold sacred, not one tittle of which it may ultimately be found necessary to alter.”
—(Last page.)

In this the Deist stands avowed, and openly confessed.

And what is the calibre and depth of the philosophy which takes such high ground, and supports doctrines and views which may be so set beside, and weighed in the scale against divine revelation ?

This treatise lays claim to the rank and character of the high philosophy :—whose data are of the most unquestionable evidence, or agreement ; whose proofs are of the most perfect deduction ; and whose conclusions are of the most exact application and extent, and definite object. This treatise claims at least to be a fresh recruited regiment of philosophical principia.

But we observe a difference between the manner of Newton, in the form and nature of his proofs, and the manner of our author. Newton was the most skilful and precise experimenter of his age, the most handy manipulator and mechanist, the most accurate observer ; and he was able and careful to do everything for himself. His proofs and self-performed calculations are before us, and are thought good of even by this figure-loving, calculating-machine making, and self-admiring age. But all the sections of our author's closely printed book of 394 pages contain not one discovery, or calculation, or proof, or experiment of his own ; or the

verification of an experiment. All its materials might be culled from such manuals and easy and popular treatises as *The London, Edinburgh and Dublin Philosophical Mag.* (p. 6), *Lardner's Cyclopædia* (p. 12), *Cours de Philosophie Positive* (p. 18), *Papers read to the British Association* (p. 152), *Todd's Cyclopædia* (p. 170), *Encyclopædia Britannica* (p. 182), etc.

To such a mind, on such a subject, and with such an object, such authorities and materials are no doubt as good as original works, and the most abstruse calculations. We ourselves should at least look for the most exact demonstrations, and the highest order of proof, when Revealed Truth was to be dethroned; for such a comparison, and the testing of such truths, must lie in accuracy and nice discrimination. But here we have conjectures where we might look for calculations, hypotheses for experiments, analogies for demonstrations; and some of these analogies and illustrations show such a liberty and looseness, such a poetry, if not puerility, of mind, as place these tracings of the vestiges of God's footsteps in the lowest scale of philosophical musings: where philosophy mingles with essay and fable and fireside conversation, and lecture room exhibitions, and polytechnic experiments, *ad captandum* little children.

This was not the manner of Newton; consistently with the difference of his ambition and object. The same word, philosophy, ought not to characterize and comprehend these excursive and balloon-like soarings, and Newton's measured, direct, and limited investiga-

tions, his careful experiments, his close and conclusive deductions, his majestic analyses. Even his Corollaries are only modest and timid enquiries whether direct experiments and calculations may not henceforth demonstrate some certain physical facts, which he looked to as probable; not assumptions of facts and phenomena, and assertions of laws, not yet ascertained: much less the dictation of moral laws, the connection and dependence of which on physical must at least be a matter of the nicest and truest discernment; or the denouncement of revealed doctrine and rule, upon the faith of truths which philosophy is to establish hereafter. Newton's Corollaries are consistent with his just views of the province and powers of philosophy, and his estimate of his own attainments, when he declared that to others he might seem to have discovered much, and dived deeply into the depths of nature and truth, but that "to himself he seemed only like one who was wandering on the sea-shore, and picking up here a brighter pebble and there a prettier gem, while the whole ocean of truth lay unfathomed before him."

We have not even another Newton in the philosopher of the Vestiges. But unless we should have something pre-eminently greater; unless we should know everything, and every step and relation, and these with exact measure and perfect accuracy,—how can we ever fit and frame together for ourselves, and unite the moral government of God with the physical, so as to demonstrate their mutuality and dependence, to improve and correct, to approve and deny, to review, dispose, to

narrow and re-arrange what God himself has sparingly made known to us.

Let us examine how far our author has qualified himself even to lay down physical laws for God's work in creation.

In obedience to his plan and object, which is, to establish that all the works of creation have been gradual and progressive, through countless millions of ages, and were ordained by one primeval fiat of God from the beginning, co-existent with matter, since which He has not interfered, or operated by any fresh act or law, physical, intellectual, moral, or spiritual,—this system traces all,—from the crude unformed rudimental basis of matter to the intelligent mind, the body and soul of man, with all his attainments and aspirations and moral capabilities,—to the existence of matter, and the operation of two laws, Gravitation and Development, with which it was endowed from the beginning; and even these, it is surmised, may be proved eventually to be but one law in two branches.

“The sum of all we have seen of the physical constitution of man is, that its Almighty Author has destined it, like everything else, to be developed from inherent qualities, and to have a mode of action depending solely on its own organization. Thus the whole is complete on one principle. The masses of space are formed by law; law makes them in due time theatres of existence for plants and animals; sensation, disposition, intellect, are all in like manner developed and

sustained in action by law. It is most interesting to observe into how small a field the whole of the mysteries of nature thus ultimately resolve themselves. The inorganic has one final comprehensive law, *gravitation*. The organic, the other great department of mundane beings, rests in like manner on one law, and that is, *development*. Nor may even these be after a twain, but only branches of one still more comprehensive law, the expression of that unity which man's wit can scarcely separate from Deity itself."—(p. 361—2.)

Matter, it is assumed, was originally in a nebulous state, much thinner than vapour, and pervaded all space. Gravity caused it to congregate towards different centres or nuclei, of which our own solar system is one very insignificant instance. When matter aggregates towards a centre, it causes itself to rotate; therefore, on the whole system, and each portion of it has a rotary motion. The only proofs or instances of this are, that water forms into whirlpools in flowing towards an orifice and the whirlwind. Rotary motion gives rise to centrifugal force; and therefore, at certain times, some bodies of matter are thrown off from the general mass, while the rest continues its progress towards the centre. Thus the primary planets were formed, and left behind; in like manner they threw off or left behind their secondaries. The cooling of the general mass is the cause of all this, heat retiring into the sun. The planets move

* In the third edition, "The expression of a unity, flowing immediately from the One who is First and Last."

be masses crisped and congealed by cold ; which therefore ceased to follow the general gravitation. The farthest planet was formed first ; and it continues the rate of motion at which the general mass was rotating when it was left behind. And so of the rest in order. The distances of the planets from the sun are nearly in exact geometrical order. All the bodies of our system rotate in the same direction, except the satellites of the Georgium Sidus, which reverse the direction.

Now no weight is given to this exception, as throwing any doubt on the theory. No, as the theory is more worthy than the proofs, the proofs must bend to it ; and it is only suggested that these satellites probably over-shot themselves, "owing to a *bouleversement* of the primary," and so got somehow turning themselves over in the opposite direction.—(p. 9, *note*). No observation or admission is made, that congregating matter only rotates just as it approaches towards the centre ; and it is never thought of, or suggested, that both in the whirlpool and the whirlwind, the gyration is caused by the fluid passing, not to the centre, but through it and away from it ; in the whirlpool downwards through the place of exit, in the whirlwind upwards to where the vacuum has caused the rapid aggregation. But the supposed nebulous matter only flows towards the centre, and there remains without exit, or further destination. It is easy to show that the same causes which occasion the whirlpool could not operate here, and would produce no such effect. At all events, the conditions are entirely different.

No suggestion is made why the heavenly bodies should be left behind at exact geometrical distances. No excuse is given why heat should aggregate toward the sun for ages, abstracting itself from the universe and should now nevertheless be momentarily and unceasingly leaving it, repaying to each part what it formerly robbed them of.

One peculiarly simple and triumphant proof of the exact identity and uniformity of all bodies in infinite space, is furnished in the universality of light; the existence of which alone must be sufficient to establish the uniformity of all beings, at least in the matter of eyes. "Where there is light there will be eyes, and these, in other spheres, will be the same in all respects as the eyes of tellurian animals, with only such differences as may be necessary to accord with minor peculiarities of condition and of situation."—(p. 165.)

Now Dr. Wollaston was a very considerable philosopher; as great, at least, as the philosopher of the Vestiges. And he had discovered, that there were *sounds*, both so high and so low, that the human ear could not perceive them. But people's ears differed; and though some sounds were inappreciable by all, yet some persons could hear sounds which others could not. And he used to carry very minute pipes in his pocket, by which he amused himself in testing the capabilities of hearing in different people's ears. He conjectured that insects, &c., heard sounds which our ears were unable to appreciate. This itself makes some little inroad upon the

argument, that what exists must be appreciated by the senses of all beings. Furthermore, philosophers have concluded that insects and other animals have means and organs of communication and mutual intelligence, and instinctive sensibilities, which we have no experience of.

Does our author suppose angels to apprehend by the sense of sight, because light is everywhere and surrounds them: or is he a true Sadducee, and denies the existence of either angel or spirit? Is it a weaker philosophy than his, to suppose that there may be elements and agencies around us and among us, of which we have no knowledge, or for which we have no organs of apprehension, but for which there may be organs of apprehension or instinctive sensibility in other beings, either of a higher or a lower intelligence?

Having thus formed the earth, and summarily admitted that all other worlds are alike,—indubitably, as to their general constitution and structure, and the generic characters of their inhabitants: probably also, as to their varieties and species, (p. 165); our author travels through all the empires and kingdoms, and preadamite recessions and dynasties of Radiata, Mollusca, Articulata, Pisces, Reptilia, Aves, Mammalia, which geology reveals to us. This is smooth and well trodden ground; and the system gets almost into a full galloping trot, so that you feel it has well nigh run away with you, and that there is no chance of stopping it. When, lo! man presents himself on the scene:—the great end of the race, the climax of the theory, the great phæno-

menon ; and we must either ride through him, or ~~over~~ him.

But such a leap is not to be accomplished at the cost of a long heat ; so that perforce we must rein in again ; and re-gathering all our strength, and recruiting our courage, and making our ground good and firm for such a spring, we may come to this crowning effort with perfect certainty of success.

The usual observation is made, that God's ways are not as our ways ; and that Moses must have meant that a thousand years were as one day, in relating the six days of Creation ;—for though the confutation of Scripture history and doctrine is evidently the intention and object of the present work, yet with the invariable inconsistency of all such philosophers, our author seeks to disarm or lull the kindlings of faith by some feeble reconcilements, or rather to show the flourish of candour and indifference, by a generous exercise of philosophical ingenuity on what some little minds may hold sacred and dear to them.

We are concerned only, in reference to this argument, to show that Moses really intended what his readers of old, and for more than forty centuries, believed him to have written and intended ; that he must either be believed or denied by those who weigh his evidence against the lights of philosophy ; and that there is no such easy and ambiguous way of getting over the inspired text. The author of the Vestiges says, that God issued one fiat from eternity, since which He has never worked any new creation, or performed any special

operation or act. And he says, that the days of Moses' creation are as thousands of years, or as still longer and more incalculable periods. But still they are periods, and measures of time; and in each of them God is said to have worked; and after the sixth of them God is said to have rested. How, if God worked only in the beginning of all, is he consistent with Moses, who says that he worked six days and then rested? or, how, if in concurrence with his philosophy, did not Moses write, that God rested on the first day, and not on the seventh? Our author attributes no work to God, since the very beginning, which He is not equally performing at this present period.

He is also, like others, constrained to pass over confusedly, and with little notice, that interruption of the parallelism which geologists would establish between the fossil remains and the Mosaic order of creation—in respect of the class, birds; which in the Mosaic record are made contemporary with the fishes: at a period, nevertheless, when the dry land was separated from the ocean.

Having brought together, with no ordinary ability and ingenuity, and exhibited in one view the interesting phænomena which geology unfolds to us, of the constant succession and progression of the orders and classes of organized matter, according to a regularly ascending scale of vegetable and animal life, corresponding with the regular succession of strata in the order of superposition,—the gradual appearance of higher orders and genera,—the addition of new species, the cessation of

others,—the fossil record of some species which, according to the principles of comparative anatomy, seem to be identical with some of those which are now existing on the earth—the infinite number and variety, and the nice differences of these species,—the author proceeds:—

“A candid consideration of all these circumstances can scarcely fail to introduce into our minds a somewhat different idea of organic creation from what has hitherto been generally entertained. That God created animated beings, as well as the terraqueous theatre of their being, is a fact so powerfully evidenced, and so universally received, that I at once take it for granted. But in the particulars of this so highly supported idea, we surely see cause for some reconsideration. It may now be inquired, In what way was the creation of animated beings effected? The ordinary notion may, I think, be not unjustly described as this,—that the Almighty author produced the progenitors of all existing species by some sort of personal or immediate exertion. But how does this notion comport with what we have seen of the gradual advance of species, from the humblest to the highest? How can we suppose an immediate exertion of this creative power, at one time to produce zoophytes, another time to add a few marine mollusks, another to bring in one or two crustacea, again to produce crustaceous fishes, again perfect fishes, and so on to the end? *This would surely be to take a very mean view of the Creative Power—to, in short, anthropomorphize it, or reduce it to some such character as that*

borne by the ordinary proceedings of mankind. And yet this would be unavoidable; for that the organic creation was thus progressive through a long space of time, rests on evidence which nothing can overturn or gainsay. Some other idea must then be come to with regard to *the mode* in which the Divine Author proceeded in the organic creation. Let us seek, in the history of the earth's formation, for a new suggestion on this point. We have seen powerful evidence, that the construction of this globe and its associates, and inferentially that of all the other globes of space, was the result, not of any immediate or personal exertion on the part of the Deity, but of natural laws which are expressions of his will. What is to hinder our supposing that the organic creation is also a result of natural laws, which are in like manner an expression of his will? More than this, the fact of the cosmical arrangements being an effect of natural law, is a powerful argument for the organic arrangements being so likewise, for how can we suppose that the august Being who brought all these countless worlds into form by the simple establishment of a natural principle flowing from his mind, was to interfere personally and specially on every occasion when a new shell-fish or reptile was to be ushered into existence on *one* of these worlds? Surely this idea is too ridiculous to be for a moment entertained."—(p. 153—5.)

Again, "The mere solitary commencement of species, which would have been the most inconceivably paltry exercise for an immediately creative power, are suffi-

ently worthy of one operating by laws.”—(p. 161.) And further, “Is it conceivable, as a fitting mode of exercise for creative intelligence, that it should be constantly moving from one sphere to another, to form and plan the various species, which may be required in each situation at particular times?”—(p. 162.)

It would be wonderful, were it not that the will always gives the weight to argument, that this extremely shallow reasoning against the agency of a special providence should have been so often repeated. But we never recollect to have seen it more boldly and blasphemously stated, or more persistingly followed up.

It is open to the readiest answer; and, indeed, it almost answers itself.

It is asserted that it is a mean view of the Deity to consider that He “works hitherto,” and is engaged continually or from time to time in the creation and disposal of particular beings and events; that it attributes to Him a littleness and weakness, a paltry pursuit and object, such as assimilates Him with weak and frail men; that it anthropomorphizes Him; that an eternal repose and inaction, and contemplation of his own works, from the beginning, the results of his one primeval fiat, is more noble and dignified, more worthy of the great Ruler, the great Governor, the great Functionary of the social order of the universe.

It is more dignified, to the human ruler and governor, so to enjoy seasons of repose and remission from business; to have so disposed and ordered every department of his office, that the course of it may proceed, while he

himself retires for relaxation and enjoyment; because rest, and remission from the necessity of labour, is the desire and ambition of man, and of all men: and this, because of his infirmity and weakness. It would be the triumph of a machinist to invent a perpetual machine; because it would increase his powers, and give him the opportunity of repose and inaction, or of some more agreeable occupation or labour, while his once accomplished work would continually supply him with bread. But to a finite being alone, who is capable of fatigue, and can do but one thing well at once, can remission from work be an object, or choice or change of occupation? To attribute any desire to God for repose, is to attribute human parts and conditions and feelings to Him. This is to anthropomorphize Him.

It is remarkable that the illustration given by our author, is that of a "public functionary," who has it in charge to attend to a multitude of affairs, and who accordingly so arranges his plans, and orders the details of his office, that the lesser matters may be conducted by his inferiors in office, while he himself undertakes the greater, or retires to some repose.—(p. 158.) Is not this to anthropomorphize the Deity?

Whereas, what is worthier the omnipotent God, than to work continually, in all time, and in all places, everywhere? He is Almighty: it is no toil to Him to frame the Leviathan, and the thunder, and the whirlwind. He is All-bountiful; and he can fashion the feeble insect for beauty and enjoyment, the animalcules and the infusoria. He is Omniscient; and He can without effort observe

and number every hair, and name every star, and examine every word and thought, and every place for a new plant, or insect, or angel in his universe. He is *Omni* present; and he can do all these things everywhere and at once, at one moment of time, and in every place in his creation.

“It is He that buildeth his stories in the heaven, and hath founded his arch in the earth; and turneth the shadow of death into the morning, and maketh the day dark with night; who calleth for the waters of the sea, and poureth them out upon the face of the earth:—The Lord is his name.”

(Amos.)

But our author says that it is not fitting for creative intelligence that it should be constantly moving about from sphere to sphere, to form and plant the various species, &c.—thus denying his ubiquity; and by this he seeks to exalt and magnify the Deity! No: this is blaspheme Him; and it has no other intention. This to anthropomorphize Him.

But man is now about to enter upon the scene; and his first appearance is ushered in with the promulgation of a law of creation—a branch of the great law of continuity and development; to which, as there is only one law for all time and place, man himself also must be subject.

“A human foetus is often left with one of the most important parts of its frame imperfectly developed: the heart, for instance, goes no farther than the three-chambered form, so that it is the heart of a reptile. There are even instances of this organ being left in the tw

chambered or fish form. Such defects are the result of nothing more than a failure of the power of development in the system of the mother, occasioned by weak health or misery, and bearing with force upon that sub-stage of the gestation at which the perfecting of the heart to its right form ought properly to have taken place. Here we have apparently a realization of the converse of those conditions which carry on species to species, so far, at least, as one organ is concerned. Seeing a complete specific retrogression in this one point, how easy it is to suppose an access of favourable conditions sufficient to reverse the phænomenon, and make a fish mother develop a reptile heart, or a reptile mother develop a mammal one." As easy as to suppose that, because a stocking-frame sometimes produces a very bad stocking, therefore it may sometimes produce a good pair of breeches. "It is no great boldness to surmise, that a super-adequacy in the measure of this under-adequacy (and the one thing seems as natural an occurrence as the other) would suffice in a goose to give its progeny the body of a rat, and produce the ornithorynchus, or might give the progeny of an ornithorynchus the mouth and feet of a true rodent, and thus complete at two stages the passage from the aves to the mammalia. Perhaps even the transition from species to species does still take place in some of the obscurer fields of creation, or under extraordinary casualties, though science professes to have no such facts on record."—(p. 219—20.)

We must revert back to the theory of the first produc-

tion of animal life, for the sake of bringing this whole system into one view.

“The nucleated vesicle, the fundamental form of all organization, we must regard as the meeting-point between the inorganic and the organic—the end of the mineral and the beginning of the vegetable and animal kingdoms.”—(p. 204.)

Here then is the turning-point, the essential and cardinal link between the animate and inanimate creation. Let us see whether, and how far, our philosopher makes it good.

“The fundamental form of organic being,” as far as it has been discovered by microscopical examination, “is a globule, having a new globule forming within itself, by which it is in time discharged, and which is again followed by another and another, in endless succession.” “Now it was announced some years ago by a French physiologist, that globules could be produced in albumen by electricity. *If*, therefore, these globules be identical with the cells which are now held to be reproductive, it might be said that the production of albumen by artificial means is the only step in the process wanting.”—(p. 173.)

So, then, upon the faith of microscopical observation being able to penetrate no farther than the production of a globule, it knows not how—and which is unable to distinguish between the ovum of a mammal (which is afterwards developed into an ox, an ape, or an elephant) and the (developed) young of the infusory animalcules, (p. 172)—and the quondam announcement of a nameless

French physiologist,* that globules could be produced by electricity in albumen; and an “*if*” these globules be identical with cells (or nucleated vesicles) which are reproductive; &c.; and another “*if*” albumen can be produced by artificial means: it is concluded, and ever afterwards taken as “proved,” “amply shown,” as spoken to us by God, “as truly through his works, as if we heard them uttered in his own voice from heaven”—“that the first step in the creation of life upon this planet was a *chemico-electric* operation, by which simple germinal vesicles were produced.”—(p. 205.)

We cannot follow the author through all his details, and display all his ability and ingenuity, and artful plausibility in the use and management of the many curious phænomena which he has industriously brought together, without making such another book. We can only endeavour to extract from and represent him faithfully. But the rest of his conclusions follow easily from the above principia. That,

In the stage from inorganic to organic existence and life, as well as in every previous change in the mineral creation, “The first step was an advance, under favour of peculiar conditions, from the simplest forms of being to the next more complicated, *and this through the medium of the ordinary process of generation.*”—(p. 206.)

“The simplest and most primitive type, under a law to which that of like-production is subordinate, gave birth to the type next above it, that this again produced

* Two names, those of Prevost and Dumas, are inserted in the 3rd edition.

the next higher, and so on to the very highest."
" Thus, the production of new forms, as shown in the pages of the geological record, has never been anything more than a new stage of progress in gestation, an event as simply natural, and attended as little by any circumstances of a wonderful or startling kind, as the silent advance of an ordinary mother from one week to another of her pregnancy."—(p. 223—4.)

We arrive at the now anticipated conclusion, that man has had no actual or specific creation ; but was produced from the lower animal kingdom by the natural process of generation, one species of animal giving birth to another, " until the second highest gave birth to man, who is the very highest."—(p. 236).

Accordingly, man is believed " to have originated where the highest species of the quadrumana (monkeys) are to be found," namely, " in the Indian archipelago."—(p. 298).

Any notion or feeling that this theory is degrading would show an " unkindliness towards the lower animals, which is utterly out of place." " Why should they (the brutes) be held in such contempt? Let us regard them in the proper spirit, as parts of the grand plan, instead of contemplating them in the light of frivolous prejudices, and we shall be altogether at a loss to see how there should be any degradation in the idea of our race having been genealogically connected with them."—(p. 237).*

* In the 3rd edition,—“ As parts of a grand plan, which only approaches its perfection in ourselves, and we shall see no degradation

Sex, even, is only a phænomenon of natural development:—the female being only an exactly similar being and organization, stopped in her progress towards becoming a male;—because the queen bee in a hive is brought to perfection, by the assiduities of the hive, in sixteen days, while it takes twenty days for the neuters to come to maturity, and twenty-four days for the males. From this it would seem intended to be understood that the females, males, and neuters are the same larvæ, only in different stages of development; and he quotes Kirby and Spence for these facts, who never dreamed of any such use of them. He furnishes his own answer and contradiction; for he acknowledges that “there is, at the period of oviposition, a destined distinction between the sexes of the young bees;” that “the queen lays the whole of the eggs which are designed to become workers (or neuters) before she begins to lay those which become males,” (p. 217); and that it is only the workers or neuters which are imperfect females, (p. 215), and capable of becoming perfect females or queen bees, having their ovaries developed by the extra warmth, and peculiar food and care applied to them by the other bees. So there is no warrant for asserting, or ground for supposing, that the neuter larvæ could, by any prolongation of their period of maturity, ever become males. And is this philosophy?

The author throughout his argument displays similar

in the idea of our generic connexion with them, but, on the contrary, reason incontestable for treating them in the manner which we already feel that a high morality demands.”

carelessness, or artifice, in the use of his facts, and inconsistencies in his reasonings; and exhibits the usual amount of credulity and measure of puerilities so eminently characteristic of the writers of sceptical philosophies. He is an ingenious arguer, but a shallow philosopher.

In support of his theory of transmutations, he is ready to believe, on the authority of an article in the *Magazine of Natural History*, that oats sown in the spring, and kept cropped down during the summer and autumn, will produce a crop of rye in the following year from the same roots and seed.—(p. 222).

He conceives the earth still to retain an intense central heat, from the original state of all matter; and though it has been continually cooling from the beginning of time, that “the central heat has for ages reached a fixed point, at which it will probably remain for ever.”—(p. 42—3).

Again, to suit the status of Saturn, he supposes it, the second formed planet, according to his system, still to retain so much heat as to account for its substance being no denser than cork.—(p. 31).

He says (pp. 49, 50) geology tells us that in the original state of our globe “there were vast irregularities in the surface;”—“there were enormous granitic mountains, interspersed with seas which sunk to a depth equally profound, and by which perhaps the mountains were wholly or partially covered.” And, on the contrary, (p. 150—1), he states, that “Marsupials,” one of the earlier forms of animal existence, “appear at

the time when the surface was generally in that flat, imperfectly variegated state in which we find Australia.' And "it was not till the land and sea had come into their present relations, and the former, in its principal continents, had acquired the irregularity of surface necessary for man, that man appeared."

In page 138 he says, "that if a sudden thaw of the circumpolar ice were to set free a large flood of water, the southward flow of this deluge, joined to the direction which it would obtain from the rotatory motion of the globe, would of course produce that compound or south-easterly direction which the phænomena require." Whereas, under the above circumstances, from the operation of the causes suggested, the flow of water would, "of course," be south westerly instead of south-easterly, and westerly by the time it reached the equator; being the same direction as that of the trade-winds, which are occasioned by the operation of the very same causes.

So we have not to follow an infallible demonstrator and guide. We have not a Newton.

Our author sets aside Lamarck's theory,—"that one being advanced in the course of generations to another, in consequence merely of its experience of wants calling for the exercise of its faculties in a particular direction, by which exercise new developments of organs took place, ending in variations sufficient to constitute a species:" as a bird might become web-footed by being forced to seek its food in the water, and as animals acquire colour, shape and instincts suited to their ne-

cessities and place and climates,—as “ obviously so inadequate to account for the rise of the organic kingdoms, that we can only place it with pity among the follies of the wise.”*—(p. 233). But he does not perceive that his own theory is supported upon a still infirmer basis, or even has less of fact and reasoning to warrant it.

But there is one branch of the argument, with respect to the position of man in the ranks of creation, to which we must give a somewhat more lengthened attention. There is a certain complex system of analogies by which all the parts of the animate creation may be classed into corresponding groups or families. Macleay, Vigors and Swainson are the three naturalists who have laboured in the department of these analogies, and have endeavoured to reduce them to a system. Wherefore the author of the *Vestiges* has grappled with this great theory. Whether for the further proof of his own system; or for the mere sake of revelling in any thing which promises system and theory; or whether because, being of universal ambition and appetite, he is resolved to bring this also within his embrace, and to use or conquer it, as it may turn out most possible or convenient; or whether to show his extensive knowledge and attainment; whether any or all of these may be the motive, he at all events resolves to try a fall with it. And having so resolved, he addresses himself to the form before him manfully. Whether for foe or friend it is not easy, or it matters not to determine.

* The last line is omitted in the 3rd edition.

Macleay has concluded that each and all the kingdoms, classes, orders, tribes, families, sub-families, down to genera and species, may be reduced and arranged into five relations and analogies. These five relations form a circle, the last of them approaching again to the first; and so these five specific relations form the complete group in the particular department of animate nature in which they are brought together. For example, the animal kingdom is divided into five sub-kingdoms—the vertebrata, annulosa, radiata, acrita, mollusca. (N. B.—One of these is changed, and another is invented for the occasion.) Again, the sub-kingdom of the vertebrata is composed of five classes—the mammalia, reptilia, pisces, amphibia, and aves. And so forth.

Further, these five members of each division and arrangement have specific and corresponding characters. This is thus instanced in the aves. The class aves has five orders—*insessores* (perching birds), *raptores* (birds of prey), *natatores* (swimming birds), *grallatores* (waders), *rasores* (scrapers). And according to the law just mentioned, the scrapers, that is scratching fowls, come round in the circle, and approach to the *insessores*, that is, they are domestic, and men eat them. The several members of these groups are otherwise distinguished and designated, according to their organic characters and degrees of perfectness, as the typical, sub-typical, natatorial, suctorial, rasorial orders; corresponding respectively to the same five characteristics,—the typical being the most perfect in its organism and character,

and therefore the best representative of the whole class. These same characters reappear in every group, from the highest to the lowest. Thus in dogs, the bull-dog and mastiff represent the second or ferocious type; the water-dog the natatorial; the greyhound, the third, or grallatorial; the gentle spaniel and the shepherd's dog, the rasorial or domestic. The variety corresponding to the perchers is not exemplified, but we presume that it is to be found in the setters and pointers.—(p. 238, &c.).

Thus far Macleay; and we see nothing surmised by him in support of the great system and theory.

Mr. Swainson endeavours to ascertain the several *grades* which exist in the classification of animals: in each of which this fivefold division is to be expected to exhibit itself; and in tracing down the line through the Aves, he finds that there are nine grades: the kingdom, sub-kingdom, class, order, tribe, family, sub-family, genus, sub-genus, or species.

Tracing down again the class Mammalia, Mr. Swainson exhibits the fivefold orders which it includes, according to the Macleay system, and places the quadrumana as the typical or perching order. He then takes the quadrumana, and, according to the same system, divides it into five tribes.

And now our expectation is raised to the highest pitch. We are looking to the ultimate object and climax, which is man; and we are ready to ask with our author, "*What place or status is assigned to man in the new natural system?*" *Parturiunt montes*. We are in pain for the birth of this ultimate proof and demonstra-

tion. When, behold, *nascitur abortium*. Mr. Swainson pronounces the simiadæ to be "a complete circle, and argues thence that there is no room in the range of the animal kingdom for man."—(p. 267).

This now is a great deal too much for philosophical endurance. Our author vents his virtuous indignation against the treasonous violation of the rights of philosophical analogy. As he before considered the argument, that God worked out his plans by specially directing the hands and wills of his creatures as instruments, "a *dangerous* kind of reasoning," (p. 160); so now he considers the suggestion of a single breach in the universality of any one of nature's analogies to be a downright impiety, and worthy of his most religious reprobation. Accordingly he turns his whole wrath and virtue against Mr. Swainson.

Some one or two of the nine *grades* of Mr. Swainson are sometimes found wanting. What a pity! "This is much to be regretted, as it introduces an irregularity into the natural system, and consequently throws a difficulty and doubt in the way of our investigating it." (p. 266). Mr. Swainson, who alone has given a review of the animal kingdom on the Macleay system, "unfortunately writes on this subject in a manner which excites a suspicion of his judgment."—(p. 267). But then, with regard to Mr. Swainson's decree, that "man is not a constituent part of any circle," and his view of "our race as standing apart, and forming a link between the unintelligent order of beings and the angels," after sundry reflections and notes of wonder, he concludes,

"but any serious argument on a theory so preposterous may be considered as nearly thrown away."—(p. 267-8.)

Man *shall* have a place in this new natural system, because it is philosophical and theoretical; and therefore the author of the Vestiges proceeds to find or make him one. "I shall, therefore," he says, "at once proceed to suggest a new arrangement of this portion of the animal kingdom, in which man is allowed the place to which he is zoologically entitled."—(p. 268-9).

Authorities and facts are well as long as they assist and support our theories; but when they run counter, why, the theory is the more worthy, and the phænomena must be altered; the facts must be remodelled and re-arranged to suit, and the authorities must be omitted. Of course the necessary arrangement is easily made, the pattern of it being at hand in the ready formed theory, and the workman having no experiences or observations of his own to make difficulties in the execution.

"The place which man is entitled to!" His title is, that "the human constitution is merely a complicated but regular process in electro-chemistry," (p. 372); and that "the difference between mind in the lower animals and in man is a difference in degree only; it is not a specific difference."—(p. 338). The privilege which he obtains thereby is, that he is withdrawn from his place as a link between the unintelligent order of beings and the angels, and more properly associated in the mystic circle of philosophy and nature, with the monkeys, the bats, the lemurs, and the cebidæ.

Mr. Swainson divides the order quadrumana into the
 Typical Simiadæ, (Monkeys of the Old World).
 Sub-typical . . Cebidæ, (Monkeys of the New World).
 Natatorial . . Unknown.
 Suctorial . . . Vespertilionidæ, (Bats).
 Rasorial Lemuridæ, (Lemurs).

The author of the *Vestiges* rejects the order Quadrumana, and substitutes that of Cheirotheria, or hand-animal. He then divides this order into the tribes,

Typical Bimana.
 Sub-typical Simiadæ.
 Natatorial Vespertilionidæ.
 Suctorial Lemuridæ.
 Rasorial Cebidæ.

“Here man is put into the typical place, as the genuine head, not only of this order, but of the whole animal world. The double affinity which is requisite is obtained, for here he has the Simiadæ on one hand, and the Cebidæ on the other. The five tribes of the order are completed, the vespertilionidæ being shifted (provisionally) into the natatorial place, for which their appropriateness is so far evidenced by the aquatic habits of several of the tribe, and the lemuridæ into the suctorial, to which their length of muzzle and remarkable saltatory power are highly suitable. At the same time, the simiadæ are degraded from the typical place, to which they have no sort of pretension, and placed where their mean character seems to require; the cebidæ again being assigned that situation which their comparatively inoffensive dispositions, their arboreal habits,

and their extraordinary development of the tail, (which with them is like a fifth hand), render so proper.”—(p. 269—70).

So the fifth hand brings the Cebidæ round again in the circle to the nearest relation to the two-handed-man! And this, though the Cebidæ are found in the New World, which is productive of the lower classes of animals; and in page 298 he says, that the highest species of the quadrumana are to be found in the Old World, in the Indian Archipelago, and from these he expressly supposes man to have derived his origin. Much notice or comment upon this new arrangement cannot be wanted, or upon the excuses made for it. But a comparison between it and Mr. Swainson's, showing the convenient and provisional substitutions and shiftings, furnish a good specimen of the wide latitude which philosophical analogies afford for accommodation to all theories and systems.

We have one crowning analogy and confirmation, which is found in the pre-eminence of the crow above all other classes and orders of birds, and puts him in a striking relation to man as the highest and typical genus of his class and family.

“The crow,” says Mr. Swainson, (here we have the author and Mr. Swainson at friends again), “the crow unites in itself a greater number of properties than are to be found individually in any other genus of birds; as if in fact it had taken from all the other orders a portion of their peculiar qualities, for the purpose of exhibiting in what manner they could be combined.

From the rapacious birds, this 'type of types', as the crow has been justly called, takes the power of soaring in the air, and of seizing upon living birds, like the hawks, whilst its habit of devouring putrid substances, and the picking out the eyes of young animals, is borrowed from the vultures. From the scansorial or climbing order, it takes the faculty of picking the ground, and discovering its food when hidden from the eye, while the parrot family gives it the taste for vegetable food, and furnishes it with great cunning, sagacity, and powers of imitation, even to counterfeiting the human voice." ("Never say die." But crows will die at last, though singularly long lived; which is another analogy between man and this his prototype). "Next come the order of waders, who impart their quota to the perfection of the crow, by giving it great powers of flight, and perfect facility in walking, such being among the chief attributes of the suctorial order. Lastly, the aquatic birds contribute their portion, by giving this terrestrial bird the power of feeding, not only on fish, which are their peculiar food, but actually occasionally of catching it."—(p. 272—3).

Now all this is ridiculous in the extreme. But it is sublimely so when we come to the crowning climax, in the comparison of the crow with man, as to their relative status.

"To fill worthily so lofty a station,"—among the mammalia, as the crow does amongst the aves,—“Man alone is competent. In him only is to be found that concentration of qualities from all the other groups of

his order which has been described as marking the corvidæ. That grasping power, which has been selected as the leading physical quality of his order, is nowhere so beautifully or so powerfully developed as in his hand. The intelligence and teachableness of the simiadæ rise to a climax in his pre-eminent mental nature. His sub-analogy to the feræ is marked by his canine teeth, and the universality of his rapacity ; for where is the department of animated nature which he does not without scruple ravage for his gratification ? With sanguinary, he has also gentle and domesticable dispositions, thus reflecting the characters of the ungulata, (the rasorial type of the class), to which we perhaps see a further analogy in the use which he makes of the surface of the earth as a source of food. To the aquatic type his love of maritime adventure very readily assimilates him ; and how far the suctorial is represented in his nature it is hardly necessary to say." Surely not, since every one must at once recollect, with fellow feeling, his infantine aptness and fondness for mother's milk, his manly for tobacco, and his youthful for lollipops.

There is one more analogy between the crow and the man which could hardly have escaped this omnivorous analogizer. There is a propensity both in crows and in philosophers to strut ; and this is so prominent an analogy, that it has passed into a proverb,—and proverbs are wonderfully productive and probative of philosophical analogies,—it has passed into a saying among parish school-boys, when they see a conceited

philosophic coxcomb marching along the street,—“Sir,” says the little boy from the opposite pavement:—“What do you say to me, sir, interrupting my thoughts,” says the pedant.—“Why, sir, I was only saying, that you strut like a crow in a gutter.” But the author has made some reference to this, in the crow’s capacity for walking. There is also another likeness, in man’s ability to live everywhere, from the equator to the pole, in town and country, from the cellar to the garret; and in his powers of eating in all manners, and every kind of thing.—(p. 273—4.)*

Having thus probed the depths of our author’s philo-

* The 3d edition has omitted nine pages, from p. 244 to 253, and fifteen pages, from 264 to 278; and the passages, therefore, which have been just quoted from those places. In place of the nine former, two pages and a half have been substituted, in which this authoritative philosopher partially reconciles himself to Mr. Swainson; doubts the quinarian system, upon which he before founded himself; and makes a near approach to Lamarck’s theory, of species being advanced by wants and adaptation, which he before placed “with pity among the follies of the wise.” With respect to the omission of the whole of the latter fifteen pages, which professed to assign the exact *status* of man in this quinarian system, we said too much, in a former note, when we said that the author had taken out the key-stone of his arch, since he retains the grand principle of man’s generation from the brute creation. But this *status* of man is one stone, next to the key-stone, in the circle of this great theory. And what ought we to think of a system of nature, which professes to be so exactly and perfectly linked and fitted in all its parts that it may be put in opposition to revealed truth and religious belief, and from which, at the same time, one part may be subtracted, and another altered or substituted, at will, and without a new proof, or remark, and to satisfy a change of fancy.

“From nature’s chain whatever link you strike,

Tenth or ten thousandth, breaks the chain alike.”

sophy, though we have not brought up all the ore into view, and tested it in detail, or proved the polish and glitter which he has given to it by elaborate ingenuity and laborious puerilities; we may now venture, without apprehension, to present a sketch of the superstructure, and the conclusions physical and moral, which are the end and object of the work; not fearing that many will feel disposed to venture themselves under the roof and shelter of a building which has such a foundation. But it is almost too bold even to repeat such blasphemous denials of those truths which the revealed Word of God has consecrated.

With impious candour and indifference he regards it as "an open question, whether mankind is of one or of many origins."—(p. 298.) His congener Niebuhr, though of the "typical" order of philosophers as compared with our present author, who is but an "aberrant," concluded, contrary to our author's inclination, that the different races of men had different origins; because he did not hold the Bible at the value of an ordinary historical authority.

"Man in the mass," even in his "moral affairs" and dealings, "is a mathematical problem."—(p. 333.)

"Free will in man is nothing more than a vicissitude in the supremacy of the faculties over each other."—(p. 351.)

"Man is a piece of mechanism," (p. 357);—we have seen before that his physical constitution is an electromagnetic machine;—and again, in his intellectual, error is only an irregularity in the operation of his thirty fa-

culties.—(p. 356.) And now, in fine, in his moral and religious constitution and relations, “the wicked man is one whose highest moral feelings are (only) rudimental. Such differences are not confined to our species; they are only less strongly marked in many of the inferior animals. There are clever dogs and wicked horses, as well as clever men and wicked men.”—(p. 353.)

“There are beings, whose organization is such that they unavoidably become malefactors.” It is “the criminal type of brain” which is the cause of this. “God does not make criminals:” but “the criminal type of brain comes into existence in accordance with laws which the Deity has established.”—(p. 358.)

And now we approach to the application of this principle, which it will be well for legislators and political philosophers to ponder and consider. Crime has been concluded to be only a necessary aberration from the generally good and virtuous operation of nature’s laws. Why then should it be punished? That it should be so is manifestly unjust and tyrannical, and a violation of enlightened reason, and our “faith” in philosophical laws. As reason advances, and philosophy takes its proper place in politics and legislation, it is manifestly designed that crime should no longer be punished, and that offenders ought only to be the subject of pity and care and condolence.

“Where the mass was less enlightened or refined, and terrors for life or property were highly excited, malefactors have ever been treated severely. But when

order is generally triumphant, and reason allowed sway, men begin to see the true case of criminals—namely, that while one large department are victims of erroneous social conditions, another are brought to error by tendencies which they are only unfortunate in having inherited from nature. Criminal jurisprudence, then, addresses itself less to the direct punishment than to the reformation and care-taking of those liable to its attention. And such a treatment of criminals, so that it stop short of affording any encouragement to crime, (a point which experience will determine,) is evidently no more than justice, seeing how accidentally all forms of the moral constitution are distributed,” &c.—(p. 361.)

In agreement with this, it is reasoned, that unhappiness is the necessary consequence of any breach of the laws of wisdom and morals; from which it is left to be inferred that this natural correction of evil is sufficient, and that every criminal ought, properly and justly, to be left only to this self-punishment.—(p. 384—6.)

Oh, that this might open the eyes of those, at least, who are not the masters but the disciples only in this false philosophy:—both those who, suffering themselves to be reasoned out of their sacred abhorrence of sin, believe that crime is not proper to be punished but to be pitied; and those who, studying mind too habitually in its connection with the brain's material organism, are led on and enticed to identify morals with mechanism, and the propensities to sin with “the criminal type of the brain:”—to see and believe amidst what dangers they are navigating; and with what companions they

are consorting in their voyage ; and whence the current flows which brings them into these vortices ; and whither the end must be, and whither it will whirl them, if they continue their course, and under the same convoy. Let them see how intimately and entirely these things are blended together, and how essentially these conclusions depend upon this style of philosophy.

The philosophic spirit is at all times unsettling and uncongenial to the humble and believing spirit ; but this " faith " in philosophy, this devotedness to its dictates, this belief in its " revelations," and the sacrifice and service of all things elsewhere derived, and held sacred, to its omnivorous ambition and appetite, is the grossest and most grievous of all idolatries.

Philosophy is the most subtle serpent that poisons and saps the spiritual mind, and fascinates the conscience. It rears its head with human front and voice, and syren sweetness of address and invitation ; while other idols exhibit their bestial foulness to only ordinary discernment. It invites at once, by its most honied sweetness, to the most tasteful, and to the bitterest fruit. Philosophy is the fruit of man's reason. The exercise of man's independent and unassisted reason is rationalism. Such philosophy and such reason are the foe to faith. Reason is man's empire : Faith is God's.

It matters not that a Socrates and a Newton have drawn out the conclusion of their own ignorance and weakness. Thousands of minds, such as are the minds of the thousands, have come to the contrary conclusion ; and each of these great souls admitted and used the

guidance and direction of a greater and a holier spirit. Riches properly estimated and used have taught to some their worthlessness. Strength duly exercised, has shown to some their weakness. Experience of high place and station, has taught to some their real littleness; and that in moral worth and force of character, there is a greater power and pre-eminence than in all these. But this does not forbid that, in the multitude of instances, power leads to an oppressive and tyrannical spirit; place, to pride and conceit; the enjoyment of wealth, to a trust in riches. And so reason and philosophy in the many cases, and whenever it is free and uncontrolled, leads to rationalism, and man's dependence on his own wisdom, and over trust in himself.

Reason is the root of unbelief and heresies. And it matters not that heretics war with and defeat each other, and that Gibbon and Volney furnish the strongest weapons against unbelief. Volney and Gibbon sowed more seeds of infidelity than they have uprooted; and others which root up their noxious weeds, will set others as poisonous and deadly in their turn.

Philosophy is ever planting new theories of error and unbelief. And what matters it that philosophy finds out the antidote for the poison, and cures at length the disease in some of the many whom it has brought to the door of death and of perdition.—That the author of the "Vestiges" denounces and confutes Lamarck's theory, and "places it with pity among the follies of the wise;" that he philosophically disputes Niebuhr's

phy, which pronounced that there must have many original races of men. The author leaves one deadly sting where he eradicates one; and hydra's head which he beats down, is increased multiplied.

as been always the pretension of reason to inter-
od's works, and to reduce them to the operation
ses and instruments which man can know and
iate; and to employ himself, if need be, in the pro-
n of the same effects, in prospect and possibility
st, if not in present use and act.

l it seems to be the design and intention of
that man should be subject to temptation upon
oint. It is an especial field of trial and probation,
or the exercise of his faith. Reason is man's pro-
and faith is God's. In every work of God, there
nothing for reason to lay claim to, and there is
hing also for faith to vindicate to itself.

the miracles of the Old Testament, God appears
ve used the natural causes and instruments which
d towards the event; so far as they could be
ble to produce it. The Red Sea was divided by
d; the east wind brought the locusts; the magi-
found means to turn their rods into serpents;
tion might cause to recede the sundial of Ahaz.
more than this, God seems to have expressly
d and presented the trial to faith, and the door of
e to unbelief, in dividing the sea by night, when
ye of reason could not examine it; in the exist-
of a natural dewy manna, which distils from the

trees or heavens, and melts with the sun, in the shrubby Arabia; in the likeness of the fire and smoke, and trumpet sound, on Mount Sinai, to the eruptions of volcanoes; and of Korah's swallowing up in the opening mouth of the ground, to an earthquake.

In all these there is a handle for unbelief to take hold of; there is also a subject for the exercise of faith. And what is the proper right and claim of each? Faith lays claim even to the working of the natural cause and instrument, and vindicates the whole to God. Reason magnifies the office of the natural and ordinary power, and arrogates to it the entire operation, and resolves all into a coincidence. What is the proper solution of this cause and controversy? Undoubtedly this. That all those causes were totally inadequate to the production of the event. Undoubtedly they operated according to their natural power, in assisting towards the conclusion; but there was some other power and process concealed, by which, keeping it in his own knowledge and disposition, God himself completed the wondrous work, and gave it its use and effect. No other such wind ever divided the Red Sea, or brought such locusts; no other serpent swallowed up all his rival serpents at once, still remaining as before; no refracting power of the air has brought the sun back ten degrees at a prophet's prayers or promise. No such manna fit for food is found attendant upon travellers in the Deserts of Arabia Petræa; and no crater of a volcano or traces of volcanic eruption are discovered upon Mount Sinai. All these causes are weak and insuf-

ficient. Man sees the beginning and the end ; but he cannot bring these together, or supply the intermediate links, or trace the operation from the cause to the effect.

“No man can find out the work that God maketh from the beginning to the end.” (Eccles. iii. 11.)

This is the right and first canon of philosophical interpretation. Whosoever does not begin with this rule, and end with this conclusion, philosophizes falsely, and is for ever being led away towards man-worship and scepticism. We have seen this to be the case in the miracles which we used by way of example. It is equally so in all the ordinary affairs of life, and the operations of nature.

“The wind bloweth where it listeth ;” we hear its sound, and see its progress and effect ; we can observe also some of the processes which give occasion to its most regular motions. But who has succeeded yet in tracing the exact cause which occasioned any change of weather or wind, so as to discover its first rise, and to show the limit of its course, and extent of its effect ; much less to predict the period of calm, and the place of the tornado.

Much more this is the case in the mind of man. Parentage and education, and circumstances, and the constitution of the brain, may give a character and a bias, and a stronger impulse in some particular direction ; but the application of this bias, and its extent, and its results in good or evil, are beyond the limit of philosophical examination ; and we cannot trace it from the beginning to the end. More hidden than the birth

and ways of man are the birth and ways of the Holy Spirit.

The author of the "Vestiges" furnishes examples enough to illustrate this point.

"Parity of conditions," he says, "does not lead to a parity of productions."—(p. 255). Where then is the sufficiency of philosophy?

"No physical or geographical reason appearing for this diversity (of species), we are led to infer that it is the result of minute and inappreciable causes."—(p. 260). Where, then, is the triumph of philosophy again?

"It has been discovered by the microscope that there is, as far as can be judged, a perfect resemblance between the ovum of the mammal tribes and the young of the infusory animalcules. One of the most remarkable of these, the *volvox globator*, has exactly the form of the germ which, after passing through a long foetal progress, becomes a complete mammifer, an animal of the highest class."—(p. 172). What is the pretension, then, of philosophical penetration to the power of tracing the works of God, and knowing their operation, when two such dissimilar objects appear at one stage to be exactly alike, so far as can be discovered by the most minute and penetrating examination?

The same truth is shown in the production of the *acarus Crossii* (p. 185, &c.), the greatest boast of philosophical pretension, and now almost a trite phænomenon. Mr. Crosse and Mr. Weekes set a galvanic battery to work upon some distilled water and the purest silicate of potash or other substance. In some weeks time an

insect is produced ; and lo, man says he can create, or has ascertained the principles of creation. But what does he do ? He puts together water, purified according to his imperfect notion of purity,—and a substance, of which he knows not the first elements, the structure or composition,—and he employs an agent implanted by God in the instrument which he uses, the source and operation of which he does not anywise understand,—and an animate being is produced,—so small that a most powerful microscope only discovers its outward parts and motions with accuracy,—but reveals nothing of its internal structure and working, whereby it exists, and grows, and moves, and has life, and feeling, and intelligence, and will,—of all which man knows nothing whatever, though he supposes himself to have directed the creation of them. Man sees the beginning in his materials and his instruments, and the end in animal existence and life ; of the middle, and the means, and the operations, he knows nothing. And why ?—because it is God's work and creation.

Respecting the time and order of creation, as narrated by Moses, the language of revealed truth only requires us to believe, that all things were created anew at the period of man's creation. But it requires as much as this. Inferior orders of beings may have inhabited the seas and earth before the period at which revealed history begins ; and Berosus, from the Chaldee records, speaks of monsters which were supposed to have existed before the commencement of the present order of things ; and no one conceived a doubt respecting this,

that it must needs contradict the belief of an entire new creation. Such things might have been, which are neither told of nor denied. But at the period when the Mosaic history begins, the earth was once more without form and void, and empty of inhabitants; the waters covered the whole earth,—and what wonder, since the same thing occurred again within 2,000 years, at the deluge,—and darkness was at that time upon the face of these waters.

This is the second canon of interpretation,—a canon not of philosophy, but of history,—a canon, therefore, of historical interpretation and of faith,—that, whatever may have existed before the beginning of revealed history, God created all things anew at the Mosaic creation.

The third canon is, that God created all things perfect.

Philosophy may show the principles and processes in operation, which, in the boundless periods of time, would or might have brought the face of nature and the world to its present form and appearance;—might have elevated the mountains, abraded their sides and summits, opened passages through their bounds for the imprisoned waters, filled up the valleys into smooth surfaces of soft and silty mould, ploughed meandering courses for the rivers throughout each of them, nursed up every living plant from the embryo seed, fish and birds from the egg, and lastly man from the helpless puling child, with monkey or angel for its nurse or natural mother. But God did none of these, according

to the Mosaic account; and did not leave the world, which was created for man's use and dominion, in this infantine, imperfect, and progressive state, for years, without a lord for this his destined possession, thus ripening in advance of him, and by fits and piecemeal. But God created all things in their maturity and perfection,—not the seed producing the tree, but the “herb yielding seed, and fruit-tree yielding fruit, whose seed was in itself,” “and every plant of the field *before it was in the earth*, and every herb of the field *before it grew*,” in the day that God created them.

The author of “The Vestiges” may contend that there are principles of natural and gradual production to be observed in the primitive order of things,—in the forming of the heavens, the fashioning the elements and the earth, the production and increase of vegetable life, of animate existence,—and thence he may infer that man also had a natural origin, a necessary existence and beginning, and that he was conceived of law, and born of nature's womb, and exists and was nourished up from birth to manhood of body and mind by elemental inherent principles of growth, and progress, and development;—but we say that man was not and could not have been so created, and in the absence of reason or history for such a fact, we *believe* the contrary.

The author of “The Vestiges” argues from the analogy of the lower kingdoms of nature up to the law-creation of man. We reverse the reasoning, and argue from the indubitable creation of man in maturity, back to the mature and perfect creation of the inferior king-

doms. Man was created mature in growth, with the perfect use and power of his limbs, which the child attains only by long trial and habit and exercise. His mind also was as mature : for he had powers of speech, without practice and teaching ; invention to give names to all beasts, without previous habit ; the character and conduct fitting him for society and fellowship, without education, and experience, and exercise.

If this the most wonderful and complicated of God's works, the body and mind of man, was thus created perfect, and in manhood and maturity, and fitted at once for the place and station, and the offices which he had to fulfil,—what wonder or difficulty could exist, even in philosophical consideration, that the other works of God should have been so accomplished,—the trees in their place and growth in all lands, as in the garden of Eden,—the rivers in their courses and channels, as Pison and Gihon, and Hiddekel and Euphrates,—the earth and sea in their perpetual bounds and beds,—the sun and moon in their eternal course,—and all nature in its full and perfect use and generative power, and energy, and maturity.

These are God's glorious ways and works ! Philosophy cannot fathom them. These are God's laws ! Philosophy cannot explain or alter them. These are God's Revelations ! Philosophy cannot rival them by its depths and power, or exalt itself against them. This is God's tower of strength, and rock of adamant ! No tool or instrument of man can penetrate it ; no collected force or engine can overthrow or shake it ; no Babel

power of philosophy and pride can rise above or up to it.

Philosophy has its right exercise and use, as an offering up to the service of religious faith, as well as the improvement of man's comforts and condition. And the greatest of all philosophers, and the very wisest of all men, have so used and offered it. Moses and Solomon had pursued its secrets as laboriously and deeply as the author of the "Vestiges." But Moses trampled under foot the philosophy of the world as well as its riches, and all the subtle and deep knowledge and wisdom of the Egyptians; and just used so much of it, and to such purpose, that there is no fear that the highest modern philosophy will ever disprove one physical fact or truth which he has used or narrated;—and he necessarily knew from the Egyptians, as did Pythagoras, that the sun was the centre of our system, and that the earth turned round upon its axis; which was never doubted till the philosophers of Greece denied and disproved it,—and it never wanted the philosophy of a Copernicus to restore the belief, except as a corrector to a previous false dogma of philosophy and reason.

Solomon reasoned and wrote of all the kingdoms of nature; and we may not doubt that his conclusions were as profound and wise as those which modern instruments of philosophic research have brought us to. But Solomon did not conclude that the philosophy of nature forced him to the denial of God's Word in the revealed record of creation; neither was it thought

worthy by him, or his successors and admirers, that his works of natural or physical philosophy should be preserved and perpetuated, in comparison with his philosophy of human life, and the conclusions to which it brought him, of faith and love, and the fear of God in every thing. We cannot doubt that his philosophy of the material creation brought him to the same conclusion.

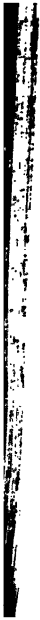
These are the three canons of truth in the works of creation ; and the philosophy of the "Vestiges" cannot shake them.

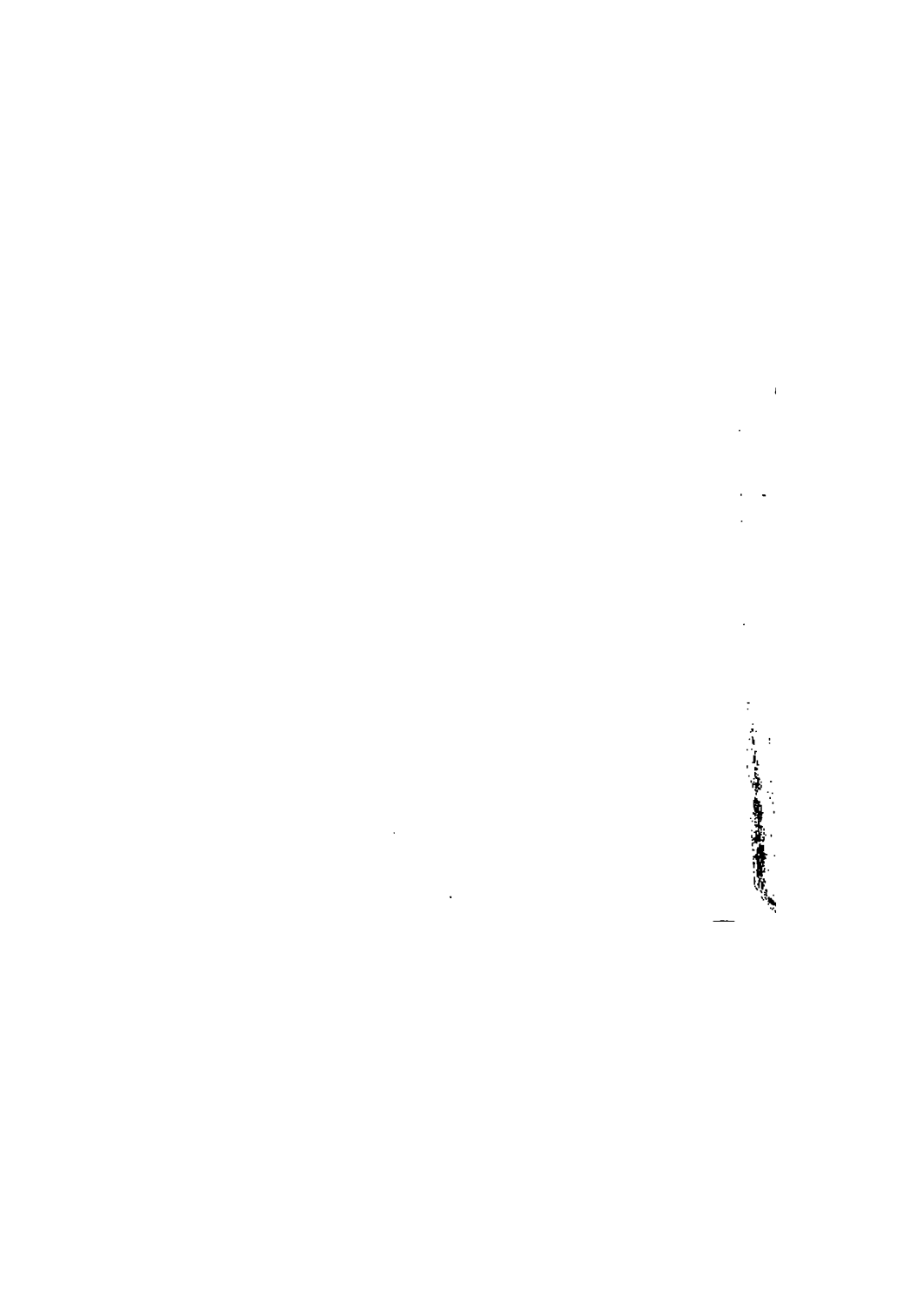
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